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In re Application of

Applicants : Robert A. Hendel et al.  
Serial No. : 10/663,585  
Filed : September 16, 2003  
Title : Treatment of Semi-Permeable  
          Filtration Membranes  
Docket : 020354 071P2  
Customer No. : 33805

Mail Stop Petition  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir/Madam:

Transmitted herewith is the following in the above-identified application:

XX Petition to Director 37 CFR 1.181 with Exhibits A and B

XX Please charge our Deposit Account No. 502431 in the amount of \$ 0.00. The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to such account. Two copies of this sheet are enclosed.

Respectfully submitted,  
WEGMAN, HESSLER & VANDERBURG

By \_\_\_\_\_

Bruce E. Peacock  
Reg. No. 28,457

*Bruce E. Peacock*

*\_\_\_\_\_  
Bruce E. Peacock*



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:

Applicants : Robert A. Hendel and Jean M. Lovett  
Serial No. : 10/663,585  
Filed : September 16, 2003  
Title : TREATMENT OF SEMI-PERMEABLE FILTRATION MEMBRANES  
Docket : 020354 071P2  
Examiner : Joseph W. Drodge  
Art Unit : 1723  
**Customer No.: 33,805**

Mail Stop Petition  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir/Madam:

**PETITION TO DIRECTOR**  
**37 CFR 1.181**

**Matter from which Petition is Taken**

Petition is hereby taken from the Examiner's refusal to grant applicants' request for three months' suspension of action under 37 CFR 1.103(c).

**Statement of Facts**

On August 23, 2006, applicants filed a Request for Continued Examination (RCE) in the above application. This request was properly filed and requested that the amendment submitted after final rejection (i.e., the previously submitted amendment) should be entered, and the fee required under 37 CFR 1.17(e) was submitted. (See Exhibit A - RCE Transmittal).

Additionally, in the transmittal form, a request for three-month extension under 37 CFR 1.103(c) (underlining added) was made, and the fee required under 37 CFR 1.17(i) for this request was also submitted. (See Box 2 – Exhibit A).

On October 16, 2006, the IP department of the undersigned received a “Final Rejection” in the application. The Final Rejection indicates, on page 2 thereof, that applicants’ Request for Extension had been denied since “[R]easons for granting of the suspension constituting good and sufficient cause were not present with the request made in the RCE.” (See Exhibit B – Final Rejection October 13, 2006, page 2).

Points to be Reviewed

It is respectfully submitted that under the provisions of 37 1.103(c), a showing of “good and sufficient cause” need not be made as a condition precedent to the grant of a suspension. To be sure, such a requirement must be made in requests for suspension brought under 37 CFR 1.103(a), but not under 37 CFR 1.103(c).

37 CFR 1.103(c) does not list that such a showing need be made and indicates that a request under this “paragraph must be filed with the Request for Continued Examination under §1.114, specify the period of suspension, and include the processing fee set forth in §1.17(i).” Applicants complied with these three requirements in the RCE transmittal form (Exhibit A). Also, the requirements as set forth in MPEP §709 for requests made under §1.103(c) correspond to those set forth in the rule and do not require that a showing of cause need be made. See MPEP §709 B.1 – Rev 5, August 2006.

Serial No. 10/663,585

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Action Requested

For the above reasons, applicants respectfully request that their Request for Suspension as set forth in the RCE transmittal form (Exhibit A) be granted and that the Final Rejection of October 13, 2006 be withdrawn.

Respectfully submitted,

WEGMAN, HESSLER & VANDERBURG

By \_\_\_\_\_

Bruce E. Peacock  
Reg. No. 28,457



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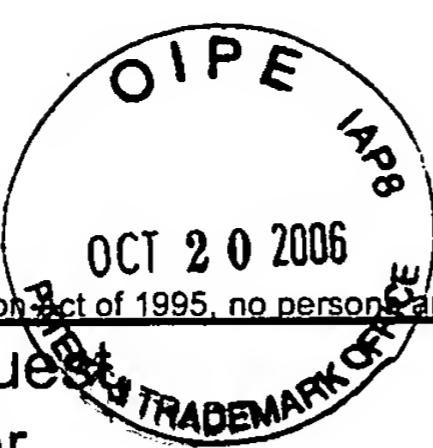
October 17, 2006

## EXHIBIT

tabular

**Request  
for  
Continued Examination (RCE)  
Transmittal**

Address to:  
Mail Stop RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450



PTO/SB/30 (07-06)

Approved for use through 09/30/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Work Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

Application Number	10/663,585
Filing Date	September 16, 2003
First Named Inventor	Robert A. Hendel
Art Unit	1723
Examiner Name	Joseph W. Drodge
Attorney Docket Number	020354 071P2

**This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.**

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

- a.  Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- i.  Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_  
ii.  Other \_\_\_\_\_

- b.  Enclosed

- |   |  |
|---|--|
| i. <input type="checkbox"/> Amendment/Reply               | iii. <input type="checkbox"/> Information Disclosure Statement (IDS) |
| ii. <input type="checkbox"/> Affidavit(s)/ Declaration(s) | iv. <input type="checkbox"/> Other _____                             |

**2. Miscellaneous**

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a

- a.  period of 3 months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)  
b.  Other \_\_\_\_\_

**3. Fees**

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

- a.  The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 50-2431. I have enclosed a duplicate copy of this sheet.

- i.  RCE fee required under 37 CFR 1.17(e)  
ii.  Extension of time fee (37 CFR 1.136 and 1.17)  
iii.  Other Processing Fee for Suspension (37 CFR 1.17(i)) (\$130) -Total Fee-- \$920.00 \_\_\_\_\_

- b.  Check in the amount of \$ \_\_\_\_\_ enclosed

- c.  Payment by credit card (Form PTO-2038 enclosed)

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

Signature		Date	August 23, 2006
Name (Print/Type)	Bruce E. Peacock, Esq.	Registration No.	28,457

**CERTIFICATE OF MAILING OR TRANSMISSION**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature

Name (Print/Type) Barbara Ann Sachs Date August 23, 2006

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,585	09/16/2003	Robert A. Hendel	020354 071P2	3291
33805	7590	10/13/2006		
EXAMINER				DRODGE, JOSEPH W
ART UNIT		PAPER NUMBER		
				1723

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DOCKET CONFIRMATION OF  
DATE CALCULATION AND  
DOCKET ENTRY  
BY JAH/VB  
OCT 16 2006

WEGMAN, HESSLER,  
& VANDERBURG

DOCKETED  
OCT 16 2006  
WEGMAN, HESSLER  
& VANDERBURG





## Office Action Summary

Application No.	10/663,585	Applicant(s)	HENDEL ET AL.
Examiner	Joseph W. Drodge	Art Unit	1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 30 August 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 2,3,7,8 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 2,3,7,8 and 12-15 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

REQUEST FOR SUSPENSION DENIED

The Request for Suspension is denied, reasons for granting of the suspension constituting good and sufficient cause were not present with the request made in the RCE (See MPEP CFR 1.103 and 1.114).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Application/Control Number: 10/663,585

Art Unit: 1723

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Claims 2,3,7,12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al patent 6,444,747, of record in view of McNeel et al patent 6,180,056. Chen et al generally disclose the instantly claimed co-polymer (Abstract) used for inhibiting scale and corrosion of surfaces, including reverse osmosis and microfiltration membranes (column 5, lines 34-63), the co-polymer being dissolved into the aqueous carrier medium that will contact the membrane (column 4, lines 14-21). Inhibition of specifically calcium phosphate scale or precipitate is disclosed at Chen column 5, lines 35-37 and also column 4, lines 34-35. Concentrations of copolymer are disclosed in column 4, lines 16-18 for claims 2 and 3. For claim 7, adding the polymers directly into the water system being treated (column 4, lines 19-21) infers membrane immersion. For claims 9 and 10, scales such as calcium phosphate are inhibited (column 5, lines 36-37). For claim 12, use of AA/APES monomer blends is shown in the Table bridging columns 8 and 9.

The claims differ in explicitly requiring that the membrane treatment not adversely affect either salt rejection of the membranes treated or throughput of aqueous solution or dispersion therethrough. However, McNeel et al teach treating reverse osmosis membranes with acrylic acid polymers, combinations of polymers and derivatives (column 3, line 63-column 4, line 26 with polyacrylic acids being named at column 4, line 5) and properties of the membrane-treating chemicals being effective in eliminating membrane fouling without adversely affecting either permeate flow or salt rejection (column 3, lines 25-34). Inhibition of scale of types including compounds of calcium and phosphate is strongly suggested at column 4, lines 54-56 and the Table at

column 7. It would have been obvious to one of ordinary skill in the art at the time of the invention to have practiced the membrane cleaning or treatment method of Chen in such manner so as to have no adverse effect on salt rejection of membrane or flow through the membrane, since McNeel teaches that such effects are inherent properties of cleaning or treatment of membranes using acrylic acid-containing formulations.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al in view of Amjad patent 4,895,658. Claim 8 differs in requiring the membrane treated to be polyamide RO membranes. It would have been obvious to one of ordinary skill in the art to have applied the method of Chen et al to polyamide RO membranes, since Amjad teaches at column 1, lines 9-11, 40-43) use of polyamide membranes, and effective inhibition of calcium-containing scale from their surfaces by use of cleaning formulae that include acrylic acid (column 4, lines 56-59 and column 5, lines 19-37).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al in view of Kessler et al patent 6,099,755. Claim 13 differs in requiring the treatment agent to be AA/PEGAE formula. However, Chen et al disclose related AA/APES cleaning composition and it would have been obvious to have substituted the AA/PEGAE formula taught by Kessler et al at column 6, lines 39-53, since such formula has proven effective in inhibiting calcium phosphate scale under dynamic testing.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al in view of Takiguchi et al PGPUBS Document US2003/0008793.

Claim 15 differs in requiring AA to be combined with an allyloxy-propanediol polymer. However, Takiguchi teaches such polymer or its derivative used in a cleaning composition (paragraph 140) and co-polymers of such compositions with acrylic acid polymers (paragraph 27) and their use in cleaning any hard or fabric surface (paragraph 1). It would have been further obvious to one of ordinary skill in the art to have combined the AA membrane treatment and cleaning polymer of Chen with the allyloxy-propanediol polymer of Takiguchi, since Chen discloses AA being especially effective when combined with a co-polymer and Takiguchi teaches the propanediol polymer having effective detergent properties while being highly soluble in water (such as the water being passed through the membrane filter).

Applicant's arguments filed on July 31, 2006 have been fully considered but they are not persuasive. It is argued that Chen does not explicitly state function of applying treating copolymer without adversely affecting salt rejection and throughput through the membrane. However, such functions are to at least some extent present with any

proven membrane treating/cleaning composition else the composition would not be used and are explicitly stated by McNeel where membranes are cleaned with similar acrylic acid polymers and mixtures of such polymers to those applied by Chen.

It is argued that the references are not specifically directed to inhibition of calcium phosphate type scaling. However, both Chen (column 4, lines 34-36 and column 5, lines 35-37) and McNeel at the column 7 Table and column 4, lines 55-57 disclose or strongly suggest calcium phosphate scaling.

It is argued that McNeel does not refer to an allyloxy functional copolymer inhibiting scale. However, Chen discloses such specific copolymer being used for inhibiting scale formation on membranes, while McNeel teaches that similar antiscalants such as mixtures of similar antiscalants such as polyacrylic acid and phosphonate compounds inhibit scaling including molecules of colloidal calcium and phosphate.

This is a RCE of applicant's earlier Application No. 10/663,585. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

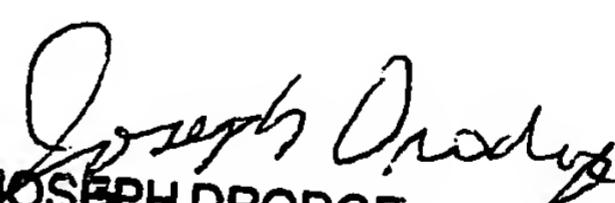
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

October 7, 2006

  
JOSEPH DRODGE  
PRIMARY EXAMINER